AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An information recording method comprising the steps of:

(a) generating a pulse train including a first pulse and a second pulse; and

(b) forming at least one of a recording mark and a space onto an information recording medium by irradiating the pulse train onto the information recording medium while rotating the information recording medium at a certain linear velocity,

wherein the first pulse is a pulse for forming a central portion of the recording mark, among the recording mark and the space,

the second pulse is a pulse forming a portion other than the central portion of the recording mark, among the recording mark and the space, and

the step (a) includes a step of determining a power level of the first pulse using a power coefficient ~~defining a power ratio between the power level of the first pulse~~ and a power level of the second pulse, wherein the power coefficient and the power level of the second pulse are dependent on the linear velocity.

2. (Original) An information recording method according to claim 1, wherein:

the second pulse includes a third pulse for forming at least one of a leading portion of the recording mark and a trailing portion of the recording mark, and

a power level of the first pulse becomes equal to a power level of the third pulse in accordance with an increase in the linear velocity.

3. (Original) An information recording method according to claim 1, wherein:

the second pulse includes a third pulse for forming one of a leading portion of the recording mark and a trailing portion of the recording mark, and

a power level of the third pulse is greater than a power level of the first pulse.

4. (Original) An information recording method according to claim 1, wherein:

the second pulse includes a third pulse for forming a leading portion of the recording mark and a trailing portion of the recording mark, and

a power level of the third pulse is greater than a power level of the first pulse.

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5. (Previously Presented) An information recording method according to claim 1, wherein:

the power level of the first pulse is determined in accordance with the following formula:

$Pm(v) = \alpha(v) \times (Pp(v) - Pe(v)) + Pe(v)$,

the second pulse includes a third pulse for forming at least one of a leading portion of the recording mark and a trailing portion of the recording mark and a fourth pulse for forming the space,

where Pm(v) denotes the power level of the first pulse, $\alpha(v)$ denotes the power coefficient which is a function of the linear velocity, Pp(v) denotes a power level of the third pulse, and Pe(v) denotes a power level of the fourth pulse, and

the power level of the third pulse is greater than the power level of the first pulse.

6. (Previously Presented) An information recording method according to claim 1, wherein:

the power level of the first pulse is determined in accordance with the following formula:

$Pm(v) = \alpha(v) \times Pe(v)$,

the second pulse includes a fourth pulse for forming the space, and

where Pm(v) denotes the power level of the first pulse, $\alpha(v)$ denotes the power coefficient which is a function of the linear velocity, and Pe(v) denotes a power level of the fourth pulse.

7. (Currently Amended) An information recording method according to claim 1, wherein:

the power level of the first pulse is determined in accordance with the following formula:

$$Pm(v) = \alpha(v) \times Pp(v),$$

the second pulse includes a third pulse for forming at least one of a leading portion of the recording mark and a trailing portion of the recording mark,

where Pm(v) denotes ~~the power coefficient which is~~ the power level of the first pulse, $\alpha(v)$ denotes a function of the linear velocity, and Pp(v) denotes a power level of the third pulse, and

the power level of the third pulse is greater than the power level of the first pulse.

8. (Original) An information recording method according to claim 1, wherein:

the power level of the first pulse is determined in accordance with only the power level of the second pulse, when the linear velocity is at least one of near maximum linear velocity and near minimum linear velocity.

9. (Original) An information recording method according to claim 1, wherein:

the power level of the first pulse is determined in accordance with only the power level of the second pulse, when the linear velocity is near intermediate linear velocity.

10. (Currently Amended) An information recording medium for recording information, wherein:

at least one of a recording mark and a space is formed onto the information recording medium by irradiating a pulse train onto the information recording medium while rotating the information recording medium at a certain linear velocity,

the pulse train includes a first pulse and a second pulse,

the first pulse is a pulse for forming a central portion of the recording mark, among the recording mark and the space,

the second pulse is a pulse for forming a portion other than the central portion of the recording mark, among the recording mark and the space,

a power level of the first pulse is determined using a power coefficient ~~defining a power ratio between the power level of the first pulse~~ and a power level of the second pulse, wherein the power coefficient and the power level of the second pulse are dependent on the linear velocity, and

the information recording medium has an area on which the power level of the first pulse is recorded.

11. (Previously Presented) An information recording medium according to claim 10, wherein:

$\alpha(v)$ is recorded in the area, and

$\alpha(v)$ denotes the power coefficient.

12. (Currently Amended) An information recording apparatus comprising:

a pulse train generating means for generating a pulse train including a first pulse and a second pulse; and

a forming means for forming at least one of a recording mark and a space onto the information recording medium by irradiating the pulse train onto the information recording medium while rotating the information recording medium at a certain linear velocity,

wherein the first pulse is a pulse for forming a central portion of the recording mark, among the recording mark and the space,

the second pulse is a pulse for forming a portion other than the central portion of the recording mark, among the recording mark and the space, and

the pulse train generating means includes a power level determining means for determining a power level of the first pulse using a, power coefficient ~~defining a power ratio between the power level of the first pulse~~ and a power level of the second pulse,

wherein the power coefficient and the power level of the second pulse are dependent on the linear velocity.

13. (Currently Amended) An information recording method comprising the steps of:

(a) generating a pulse train including a first peak pulse and a second peak pulse; and

(b) forming at least one of a long recording mark, a short recording mark and a space onto an information recording medium by irradiating the pulse train onto the information recording medium while rotating the information recording medium at a certain linear velocity,

wherein the first peak pulse is a pulse for forming the short recording mark and the second peak pulse is a pulse for forming the long recording mark, and

the step (a) includes a step of determining a power level of the first peak pulse using a power coefficient ~~defining a power ratio between the power level of the first peak pulse~~ and a power level of the second peak pulse, wherein the power coefficient and the power level of the second peak pulse are dependent on the linear velocity.

14. (Original) An information recording method according to claim 13, wherein:

the power level of the first peak pulse becomes equal to the power level of the second peak pulse in accordance with a decrease in the linear velocity.

15. (Original) An information recording method according to claim 13, wherein:

a length of the short recording mark is a length of the shortest recording mark formed based on a modulation code for recording.

16. (Original) An information recording method according to claim 13, wherein:

a length of the short recording mark is longer than or equal to a length of the shortest recording mark formed based on a modulation code for recording, and a length of the short recording mark is shorter than a length of the long recording mark.

17. (Previously Presented) An information recording method according to claim 13, wherein:

the power level of the first peak pulse is determined in accordance with the following formula:

$$Pps(v) = \beta(v) \times Ppl(v),$$

wherein Pps(v) denotes the power level of the first peak pulse, $\beta(v)$ denotes the power coefficient which is a function of the linear velocity, and Ppl(v) denotes the power level of the second peak pulse.

18. (Previously Presented) An information recording method according to claim 13, wherein:

the power level of the first peak pulse is determined in accordance with the following formula:

$$Pps(v) = \beta(v) \times (Ppl(v) - Pe(v)) + Pe(v),$$

wherein Pps(v) denotes the power level of the first peak pulse, $\beta(v)$ denotes the power coefficient which is a function of the linear velocity, Ppl(v) denotes the power level of the second peak pulse, and Pe(v) denotes a power level of the pulse for forming the space.

19. (Previously Presented) An information recording method according to claim 13, wherein:

the power level of the first peak pulse is determined in accordance with the following formula:

$$Pps(v) = \beta(v) \times Ppl(v) + Ppl(v),$$

wherein Pps(v) denotes the power level of the first peak pulse, $\beta(v)$ denotes the power coefficient which is a function of the linear velocity, and Ppl(v) denotes the power level of the second peak pulse.

20. (Original) An information recording method according to claim 13, wherein:

the power level of the first peak pulse is determined in accordance with only the power level of the second peak pulse, when the linear velocity is at least one of near maximum linear velocity and near minimum linear velocity.

21. (Original) An information recording method according to claim 13, wherein:

the power level of the first peak pulse is determined in accordance with only the power level of the second peak pulse, when the linear velocity is near intermediate linear velocity.

22. (Currently Amended) An information recording medium for recording information, wherein:

at least one of a long recording mark, a short recording mark and a space is formed onto the information recording medium by irradiating a pulse train onto the information recording medium while rotating the information recording medium at a certain linear velocity,

the pulse train includes a first peak pulse and a second peak pulse,

the first peak pulse is a pulse for forming the short recording mark and the second peak pulse is a pulse for forming the long recording mark,

a power level of the first peak pulse is determined using a power coefficient ~~defining a power ratio between the power level of the first peak pulse~~ and a power level of the second peak pulse, wherein the power coefficient and the power level of the second peak pulse are dependent on the linear velocity, and

the information recording medium has an area on which the power level of the first peak pulse is recorded.

23. (Previously Presented) An information recording medium according to claim 22, wherein:

$\beta(v)$ is recorded in the area, and

$\beta(v)$ denotes the power coefficient.

24. (Currently Amended) An information recording apparatus comprising:

a pulse train generating means for generating a pulse train including a first peak pulse and a second peak pulse; and

a forming means for forming at least one of a long recording mark, a short recording mark and a space onto the information recording medium by irradiating the pulse train onto the information recording medium while rotating the information recording medium at a certain linear velocity,

wherein the first peak pulse is a pulse for forming the short recording mark and the second peak pulse is a pulse for forming the long recording mark, and

the pulse train generating means includes a power level determining means for determining the power level of the first peak pulse using a power coefficient ~~defining a power ratio between the power level of the first peak pulse~~ and a power level of the second peak pulse, wherein the power coefficient and the power level of the second peak pulse are dependent on the linear velocity.